

C L A I M S

1. Method for coupling each of one or more peripheral devices (8) to a network (4) of distributed antenna's (6), each peripheral device (8) being suitable for transmission of one or more carrier signals, which each occupy a different radio frequency band, the network of antenna's comprising a main transmission path by cable (7), in which the carrier signals are coupled into and out of the main transmission path from and to the peripheral devices (8) respectively,

characterized by:

a) dividing the network (4) of antenna's into a first network (14) and a second network (15) comprising a first main transmission path part (17) and a second main transmission path part (18) of the main transmission path respectively; and

at a location between the first (17) and second (18) main transmission path parts:

b) splitting the first main transmission path part (17) into a first group of intermediate transmission paths (35) for transmission of different carrier signals over different intermediate transmission paths (35) of the first group;

c) splitting the second main transmission path part (18) into a second group of intermediate transmission paths (36) for transmission of different carrier signals over different intermediate transmission paths (36) of the second group; and

d) connecting an intermediate path (36) of the second group to an intermediate path of the first group (35) or to a further peripheral device (22).

2. Method according to claim 1, **characterized in that** an intermediate path (35) of the first group of intermediate paths is connected to an intermediate path (36) of the second group of intermediate paths or to an intermediate path terminating member (47).

3. Method according to claim 1 or 2, **characterized in that** an input of the intermediate coupling device (21) for connection to the further peripheral device (22) is connected to an intermediate path (36) of the second group of intermediate paths or to an intermediate

path terminating member (48).

4. Transmission system, comprising a main coupling device (3) and a network (4) of distributed antenna's (6) having a cable (7) providing a main transmission path, the main coupling device (3) being suitable for coupling the cable (7) to one or more peripheral devices (8), each of which being suitable for transmission of one or more carrier signals, which each occupy a different radio frequency band, **characterized by** the network (4) of antenna's (6) being divided into first (14) and second networks (15) providing first and (17) second (18) main transmission path parts of the main transmission path respectively, an intermediate coupling device (21) being coupled to the first and second main transmission path parts (17, 18) and splitting the first and second main transmission path parts (17, 18) into a first and second groups of intermediate paths (35, 36) respectively for transmission per group of intermediate paths of different carrier signals over different intermediate transmission paths, and the intermediate coupling device (21) connecting an intermediate path (36) of the second group to an intermediate path (35) of the first group or to a further peripheral device (22).

5. Transmission system according to claim 4, **characterized in that** a path (35) of the first group of intermediate paths is connected to a path (36) of the second group of intermediate paths or to an intermediate path terminating member (45, 46).

6. Transmission system according to claim 4 or 5, **characterized in that** an input of the intermediate coupling device (21) for connection to the further peripheral device (22) is connected to an intermediate path (36) of the second group of intermediate paths or to an intermediate path terminating member (46).

7. Transmission system according to claim 4, 5 or 6 **characterized in that** the intermediate paths (35, 36) of the first and second groups of intermediate paths and the further peripheral device (22) are connected to each other by remote controllable electronic switches.

8. Transmission system according to claim 7, **characterized in that** remote control of the electronic switches is exercised by control functionality of a peripheral device which is associated with the switch.

9. Transmission system according to claim 4, **characterized in that** a first port (51) of circulator (50) is connected to a first intermediate path (35), a second port (52) is connected to a short circuit (56) or to a further peripheral device (22), and a third port (53) of the circulator (50) is connected to a second intermediate (36).

10. Transmission system according to claim 9, **characterized in that** with a further peripheral device (22) connected to the second port (52) of circulator (50) the further peripheral device (22) provides a matched load to said second port (52).

11. Transmission system according to claim 9 or 10, **characterized in that** with a further peripheral device (22) connected to the second port (52) of circulator (50) the further peripheral device (22) is connected to said second port (52) through an isolator which provides a matched load to said second port (52).

12. Transmission system according to claim 11, **characterized in that** the isolator is a further circulator of which an intermediate or second port is terminated by a matched load.